



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-1650; Project Identifier AD-2023-00795-T; Amendment 39-22517; AD 2023-15-05]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all The Boeing Company Model 737 airplanes equipped with CFM International, S.A. (CFM) Model LEAP-1B series turbofan engines. This AD was prompted by a report indicating that use of engine anti-ice (EAI) in dry air for more than five minutes during certain environmental and operational conditions can cause overheating of the engine inlet inner barrel beyond the material design limit, resulting in failure of the engine inlet inner barrel and severe engine inlet cowl damage. This AD requires revising the existing airplane flight manual (AFM) to limit the use of EAI in certain conditions and revising the operator's existing minimum equipment list to prohibit dispatch under a certain item. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2023-1650; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: James Laubaugh, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3622; email: james.laubaugh@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under ADDRESSES. Include Docket No. FAA-2023-1650 and Project Identifier AD-2023-00795-T at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to James Laubaugh, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3622; email: james.laubaugh@faa.gov. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA has received a report in June 2023 indicating that flight testing and analysis revealed that the use of EAI in dry air for more than five minutes during certain combinations of altitude, total air temperature, and N1 settings can result in engine inlet cowl temperatures exceeding design limits when not in visible moisture. Excessive heat buildup can cause overheat of the engine inlet inner barrel beyond the material design limit, resulting in failure of the engine inlet inner barrel and severe engine inlet cowl

damage. There have been no reports of in-service failures of the engine inlet inner barrel to date.

This condition as previously described, if not addressed, could result in departure of the inlet and potential fan cowl failure and departure from the airplane. The departure of the inlet may cause fuselage and/or window damage, potentially resulting in decompression and hazard to window-seated passengers aft of the wing and/or impact damage to the wing, flight control surfaces, and/or empennage, which could result in loss of control of the airplane. Inlet loss also causes significantly increased aerodynamic drag and asymmetric lift due to wing blanking, which risks fuel exhaustion on certain flights, resulting in a forced off-airport landing and injury to passengers. The FAA is issuing this AD to address the unsafe condition on these products.

FAA's Determination

The FAA is issuing this AD because the agency has determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

AD Requirements

This AD requires revising the existing AFM to limit the use of engine anti-ice in certain conditions. This AD also requires revising the operator's existing minimum equipment list (MEL) to prohibit dispatch under Master Minimum Equipment List (MMEL) Item 30-21-01B (EAI valve locked open). Further analysis of this item is necessary to determine whether continued use will cause failure of the engine inlet inner barrel.

Compliance with AFM Revision

Section 91.9 prohibits any person from operating a civil aircraft without complying with the operating limitations specified in the AFM. FAA regulations also

require operators to furnish pilots with any changes to the AFM (14 CFR 121.137) and pilots in command to be familiar with the AFM (14 CFR 91.505).

MMEL Revision

This AD refers to Item 30-21-01B (Engine (Cowl) Anti-Ice Valves), Boeing 737 MAX (B-737-7/-8/-8200/-9) MMEL, Revision 5, dated June 3, 2022; this item is also included in an operator's FAA-approved minimum equipment list (MEL). This AD prohibits dispatch or release of the airplane under conditions currently allowed by that item in the MMEL. The FAA plans to revise the MMEL to remove that item in a future revision; operators would then be required to also remove that item from their existing FAA-approved MEL.

Interim Action

The FAA considers this AD to be an interim action. The manufacturer is currently developing a modification that will address the unsafe condition identified in this AD. Once this modification is developed, approved, and available, the FAA might consider additional rulemaking.

Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies forgoing notice and comment prior to

adoption of this rule because operating EAI in dry air for more than five minutes during certain environmental and operational conditions can cause overheating of the engine inlet inner barrel beyond the material design limit, resulting in failure of the engine inlet inner barrel and severe engine inlet cowl damage. If not addressed, this could result in departure of the inlet and potential fan cowl failure and departure from the airplane. The departure of the inlet may cause fuselage and/or window damage, potentially resulting in decompression and hazard to window-seated passengers aft of the wing and/or impact damage to the wing, flight control surfaces, and/or empennage, which could result in loss of control of the airplane. Further, inlet loss causes significantly increased aerodynamic drag and asymmetric lift due to wing blanking, which risks fuel exhaustion on certain flights, resulting in a forced off-airport landing and injury to passengers. Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B).

In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forgo notice and comment.

Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because the FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects 402 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
AFM/MEL revision	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$34,170

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866, and
- (2) Will not affect intrastate aviation in Alaska.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2023-15-05 The Boeing Company: Amendment 39-22517; Docket No. FAA-2023-1650; Project Identifier AD-2023-00795-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all The Boeing Company Model 737 airplanes equipped with CFM International, S.A. (CFM) Model LEAP-1B series turbofan engines, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 30, Ice and Rain Protection; 71, Powerplant.

(e) Unsafe Condition

This AD was prompted by a report indicating that use of engine anti-ice (EAI) in dry air for more than five minutes during certain environmental and operational conditions can cause overheating of the engine inlet inner barrel beyond the material design limit, resulting in failure of the engine inlet inner barrel and severe engine inlet

cowl damage. The FAA is issuing this AD to address use of EAI in certain environmental and operational conditions. The unsafe condition, if not addressed, could result in departure of the inlet and potential fan cowl failure and departure from the airplane. The departure of the inlet may cause fuselage and/or window damage, potentially resulting in decompression and hazard to window-seated passengers aft of the wing and/or impact damage to the wing, flight control surfaces, and/or empennage, which could result in loss of control of the airplane. Inlet loss also causes significantly increased aerodynamic drag and asymmetric lift due to wing blanking, which risks fuel exhaustion on certain flights, resulting in a forced off-airport landing and injury to passengers.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Airplane Flight Manual (AFM) Revision

Within 15 days after the effective date of this AD: Revise the Limitations Section of the existing AFM to include the information specified in figure 1 to paragraph (g) of this AD. This may be done by inserting a copy of figure 1 to paragraph (g) of this AD into the existing AFM.

Figure 1 to paragraph (g) - Engine anti-ice AFM revision

(Required by AD 2023-15-05)

Engines – Anti-Ice System

Do not operate Engine Anti-Ice (EAI) in-flight when not in actual or anticipated icing conditions.

CAUTION: Operation of EAI when not in actual or anticipated icing conditions may result in severe engine inlet damage or failure.

(h) Minimum Equipment List (MEL) Revision

Within 15 days after the effective date of this AD or upon completion of the AFM revision required by paragraph (g) of this AD, whichever occurs first: Revise the

operator's existing FAA-approved MEL to prohibit dispatch under the MEL item corresponding with Master Minimum Equipment List (MMEL) Item 30-21-01B (Engine (Cowl) Anti-Ice Valves).

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR-520, Continued Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, AIR-520, Continued Operational Safety Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(j) Related Information

For more information about this AD, contact James Laubaugh, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3622; email: james.laubaugh@faa.gov.

(k) Material Incorporated by Reference

None.

Issued on July 31, 2023.

Victor Wicklund, Deputy Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2023-17197 Filed: 8/7/2023 4:15 pm; Publication Date: 8/10/2023]